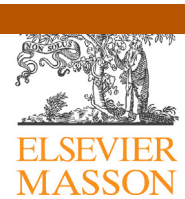
Archives of Cardiovascular Disease (2013) 106, 680—689



Available online at

ScienceDirect

www.sciencedirect.com

Elsevier Masson France

EM|consulte

www.em-consulte.com/en

REVIEW

Therapeutic education in coronary heart disease: Position paper from the Working Group of Exercise Rehabilitation and Sport (GERS) and the Therapeutic Education Commission of the French Society of Cardiology

Éducation thérapeutique dans la maladie coronarienne: position du Groupe exercice réadaptation et sport (GERS) et de la Commission d'éducation thérapeutique de la Société française de cardiologie

Bruno Pavy[a,*], Régis Barbet[b], François Carré[c], Christine Champion[d], Marie-Christine Iliou[e], Patrick Jourdain[f], Yves Juillière[g], Catherine Monpère[h], Richard Brion[i]

[a] *Cardiovascular Rehabilitation Department, CH Loire-Vendée-Océan, boulevard des Régents, BP 2, 44270 Machecoul, France*
[b] *Cardiac Rehabilitation Department, Corbie, France*
[c] *Cardiologic Functional Exploration Department, CHU Pontchaillou, Rennes, France*
[d] *Cardiac Department, CHU, Angers, France*
[e] *Cardiovascular Rehabilitation Department, CH Corentin Celton, Issy-Les-Moulineaux, France*
[f] *Therapeutic Unit for Heart Failure and School of Heart, CHU René-Dubos, Pontoise, France*

Abbreviations: ACS, acute coronary syndrome; CHD, coronary heart disease; GERS, Working Group of Exercise Rehabilitation and Sport; HAS, Haute Autorité de Santé TPE, therapeutic patient education.

* Corresponding author.
E-mail address: pavy.bruno@wanadoo.fr (B. Pavy).

1875-2136/$ — see front matter
http://dx.doi.org/10.1016/j.acvd.2013.10.002

[g] *Unit of Management and Therapeutic Education for Heart Failure (UPECETIC) and Heart Failure and Valvular Heart Diseases Unit, Institut Lorrain du Coeur et des Vaisseaux Louis-Mathieu, Vandœuvre-les-Nancy, France*
[h] *Cardiovascular Rehabilitation Centre ''Bois-Gibert'', Ballan-Miré, France*
[i] *Cardiovascular Rehabilitation Centre, Dieulefit and Cardiovascular Rehabilitation Centre ''Bayard'', Villeurbanne, France*

Received 28 September 2013; accepted 7 October 2013
Available online 15 November 2013

KEYWORDS
Therapeutic patient education;
Coronary heart disease;
Multiprofessional programme

Summary Cardiovascular mortality has decreased over the past 25 years, largely because of acute coronary syndrome care and preventive actions. Nevertheless, the rate of coronary heart disease remains high, with an annual risk of 4.7% (cardiac mortality, myocardial infarction, stroke). Cardiovascular risk factor management must be a priority in primary and secondary prevention, to improve the prognosis of this severe disease, in which absence of symptoms does not mean benignity. The current goals of therapeutic patient education are smoking cessation, regular physical activity, a cardioprotective (Mediterranean) diet, management of stress, good treatment adherence (which improves compliance), judicious use of the care system and help with occupational reintegration. Current and future programmes must be in accordance with the Haute Autorité de Santé recommendations published in 2007.

MOTS CLÉS
Éducation thérapeutique du patient ;
Maladie coronarienne ;
Programme multiprofessionnel

Résumé La mortalité cardiovasculaire a diminué de moitié en 25 ans, en raison des progrès de la prise en charge des syndromes coronaires aigus et des actions de prévention. Néanmoins, l'incidence de la maladie coronarienne stable reste élevée, avec un risque annuel de 4,7 % (mort cardiaque, infarctus du myocarde, accident cérébral). La prise en charge des facteurs de risque modifiables reste une priorité, tant en prévention primaire que secondaire, afin d'améliorer le pronostic de cette affection redoutable dont le caractère asymptomatique n'est pas synonyme de bénignité. L'aide au sevrage du tabac, une activité physique régulière, une alimentation cardioprotectrice (régime « méditerranéen »), la gestion du stress, une bonne adhésion au traitement médicamenteux qui améliore son observance, un recours judicieux au système de santé, l'aide à la réinsertion professionnelle sont les enjeux actuels de l'éducation thérapeutique du patient coronarien. À partir des recommandations de la Haute Autorité de santé publiées en 2007, les programmes (existants et futurs) doivent se mettre en conformité avec la législation actuelle.

Background

The reduction of cardiovascular mortality is explained mainly by prevention [1—3]. Consequently, cardiovascular risk factor management is widely recognized as a priority in primary and secondary prevention programmes [4—8]. In this way, education programmes provide a unique opportunity to improve compliance to healthy lifestyle [9—11].

The value of therapeutic patient education (TPE) for the coronary patient has been highlighted by several strategies. The European programme EUROACTION showed the efficacy of a comprehensive approach that included the patient's family, in terms of optimizing medical treatment and controlling cardiovascular risk [12]. The Italian study GOSPEL evaluated the benefit of a 3-year educational programme after cardiac rehabilitation on cardiovascular risk factor control and non-fatal myocardial infarction rate [13]. In France, the PEGASE TPE programme improved the Framingham risk score in hypercholesterolaemic patients in primary or secondary prevention compared with in a control group; however, this improvement was not statistically significant, partly due to the short follow-up [14]. A TPE programme for patients with hypertension, coronary heart disease (CHD) or heart failure was tested in patients who were beneficiaries of an agricultural mutual insurance company near their home. The programme improved their knowledge of treatment, diet and physical activity [15]. Studies published in recent years by health networks and educational and rehabilitation units have reported similar findings [16—19]. This list of TPE strategies is not comprehensive.

TPE for patients with heart failure has been developed over a number of years and its efficiency is now established; it has been published as a recommendation of the French Society of Cardiology (FSC) [20,21].

Issues

The therapeutic education that must form part of the care package for coronary patients cannot be limited to simple information. Indeed, information targets the disease while education is a patient-centered learning process [22]. There

is no recommendation regarding TPE for coronary patients. The purpose of this article is to propose a reference framework and a structured method to facilitate the development of TPE for the benefit of all coronary patients. The consistency of messages is also an objective to facilitate exchanges between the centers that use the TPE programme.

Any TPE programme must be authorized according to the recent legislation [11]. TPE must fulfill quality criteria, and be feasible to be implemented and assessed by the educational team, in order to benefit most patients and ensure equality of access to health care.

Target population: coronary patients and their families

TPE could be offered to patients in different situations by any of the relevant health professionals to a patient at the time of an acute coronary syndrome (ACS), to a revascularized coronary patient (percutaneous coronary intervention or coronary artery bypass graft), and to a coronary patient with angina or silent ischaemia.

The coronary patient is often taken into care just after an acute event or a revascularization. It may be difficult to introduce TPE during this period because of the somatic, psychological and social difficulties connected with being given the disease diagnosis. However, if the cardiologist trivializes the seriousness of a speedily revascularized ACS (especially using radial access), this could increase the risk of disease denial by the patient, who will be unaware of the value of long-term care of their atheromatous disease. These circumstances should be taken into account in the organization of the TPE programme modalities.

In case of refusal of TPE by the patient, their decision must be respected, but the reasons for refusal should be understood and the concept of TPE re-explained. This prepares the ground for a new proposal to be made at a later date, in more favorable conditions.

Training and qualifications for health professional participants

TPE should be offered by professionals trained in this discipline and in coronary pathology; the involvement of cardiologists in coordinating the programme and leading the sessions is essential.

Most medical and paramedical professionals are not currently trained in TPE at university; continuous training must be organized. Every care provider required to deliver TPE in the field of coronary disease must undertake two training courses: validated training in TPE (by any approved structure), and specific training relating to coronary heart disease (pathology, treatments, risk factors).

The participants must learn to use a common language and to give consistent messages in different educational sessions, according to a reference guide based on current recommendations [23,24].

Practical experience is essential and must form part of any training course. Experience acquired by staff who have already delivered TPE will be recognized as validated training, according to the current decrees.

Steps in a TPE programme for the coronary patient

Identification of patient needs

The programme starts with an educational diagnosis (also called shared educational assessment), during one or several conversations with different participants from the multidisciplinary team (doctor, dietician, physiotherapist, nurse, psychologist, pharmacist, etc.). This step is essential to identify the needs and expectations of the patient; it serves to identify obstacles and resources to ensure the success of the TPE; it also enables the compilation, with the patient, of a list of skills that they must acquire or use. The educational diagnosis takes into account various aspects of the patient's life, personality, potential and future plans; it identifies the patient's support network, their psychological, social and occupational vulnerabilities, and their receptiveness to the TPE proposal.

The educational diagnosis tries to include adequate patient and care provider priorities using negotiated educational objectives. It begins with the collection of the patient's consent, which is obtained during an individual interview; data from this are transcribed into the TPE file, which must be accessible to all participants. Each participant can complete the educational diagnosis according to the programme. As with any medical record data, all TPE file information is subject to strict confidentiality. It is recommended that an interview guide is used for the educational diagnosis to facilitate the collection of information. This document, specific to coronary disease, must focus on the patient's knowledge, their own description of their health, illness and treatment, and their psychosocial context. The guide can be complied by the educational team using information in Tables 1 and 2, in accordance with publications by Simon et al. and d'Ivernois and Gagnayre [25,26].

Compilation of skills to be developed by the patient

The skills to be developed are negotiated with the patient in an ''educational contract''; they must be realistic and accessible.

Objectives are summarized in Table 3. Security skills are represented by treatment compliance, identification of warning signs and knowing what to do if such a sign arises. Other objectives are negotiated with the patient according to needs that are considered a priority (e.g. physical activity and diet, among others). The achievement of the objectives requires the acquisition of skills classified as follows: knowledge; knowledge to do (self-assessment techniques); knowledge to be (how to react in a given situation).

Content and methods

Individual and collective sessions complement each other; family members can join in but the distribution has to be defined by the educational team according to the resources

Table 1 Interview guide (to help with the educational diagnosis of the coronary patient).

Interview methods	Interview in a friendly atmosphere Ask the patient to reiterate facts back to you (reformulation) Use open questions Aim for mutual understanding (avoid mistakes, empathic attitude) Present the educational programme Estimate the degree of motivation Negotiate an educational contract Obtain the patient's informed consent (document written according to the legislation in force)
Identification of the patient's needs and expectations	
What he (she) has	Identify health problems (handicaps, co-morbidity)
What he (she) does	Professional activity (constraints) Social activities (constraints, benefits) Family life (circle of acquaintances, solitude, living conditions)
What he (she) knows	How does he (she) describe his (her) disease? Does he (she) attribute the disease to a particular cause? What does he (she) think of his (her) treatment?
How he (she) is	Attitude (denial, revolt, bargaining, depression, acceptance, resignation) Profile (passive, resigned, active, dynamic)
His (her) plan	What is his (her) plan? (occupation, sport at risk, etc.)
Secondary prevention objectives	
Smoking	Current weaning? Envisaged? Difficulties? In need of help? Not relevant?
Physical activity	Sufficient? Possibility of increase? Questions?
Diet	Well-balanced? Desired modifications? Possible? Questions?
Treatment	Easy follow-up? Difficult? Questions?
Return to work	Easy? Difficult? Impossible? Questions? Not relevant?
Other	Personal needs not taken into account by the standard programme

available and the specificities of the place of care (staff, premises, available time, etc.).

Individual TPE sessions, of variable duration, are intended for specific themes (e.g. diet) and should focus on one or several micro-objectives (e.g. a technical procedure).

Collective sessions, with generally three to 10 patients, are suitable for experience sharing; they need the patient's willingness to participate and the coordinator's skills to manage speaking time and possible conflicts. Various educational tools can be used (written documents, slides, internet, etc.). When possible, patients should be given the choice to participate or not in collective sessions; some people do not want to be confronted with other clinical stories or do not wish to share their own.

A session driver should be developed and validated for each type of intervention by a steering committee.

Tools and techniques must be tested, appropriate for the participants and adapted for the relevant population (e.g. local, regional, cultural and religious specificities); they must also be regularly reassessed.

A TPE programme for a coronary patient should include at least the following themes (Table 3): CHD, warning signs, risk factors, treatment, smoking cessation, cardioprotective diet, and adequate physical activity.

It is recommended that these essential themes are combined with evaluation and care of psychosocial stress if required and desired by the patient. The evaluation and care can be carried out according to the most recent recommendations of the European Society of Cardiology [23].

It is also recommended that the patient's circle of acquaintances is trained in emergency procedures.

Implementation of the various types of TPE

The patient is at the centre of the TPE process, which must be continuous.

During the initial phase of TPE, multidisciplinary care is particularly useful and the structure has to allow simple access to the various participants.

Follow-up after the initial TPE comprises strengthening phases; it necessarily involves the general practitioner and the treating cardiologist, who will be increasingly involved in the long-term educational approach to their patients.

TPE for strengthening or resumption can be organized with diverse hospital, medical and city professionals or can stem from networks. The support of a patient group is a useful element, with the participation in the programme of a ''resource patient'' (with a personal experience on TPE) or an ''expert patient'' (trained in TPE).

Evaluation of the TPE programme

Evaluation of the TPE programme is an ongoing process, from design and organization to realization and the ultimate evaluation; it aims to improve by making adjustments to or redirecting the activities of the implemented TPE.

Table 2 Example of a patient self-evaluation scale[a].

I know my treatment	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''perfectly'')
I know the beneficial diet for my health	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''perfectly'')
I know what physical activity I can do	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''perfectly'')
I feel that I am able to make the necessary changes	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''perfectly'')
I feel motivated to carry out these changes	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''perfectly'')
I consider my health care to be...	0	1	2	3	4	5	6	7	8	9	10	(from ''very bad'' to ''excellent'')
Item at end of programme												
I am satisfied with this programme	0	1	2	3	4	5	6	7	8	9	10	(from ''not at all'' to ''completely'')

[a] The results could be compared before, during and after the programme.

Table 3 Proposals for educational objectives for the coronary patient.

Objectives for the patient	Guide for the care provider
Coronary heart disease	
Knowledge	
To know the physiology of the healthy heart	To know that the heart is a muscle; to make the link between the lungs, heart and organs; to know the role of the blood supply
To know the role of the artery	To know that the artery wall is a flexible zone of exchanges
To know about atheroma and thrombosis	To explain the infiltration of the wall, its slow progress and the acute thrombotic accident
To recognize the pain of angina pectoris	Characteristics; mode of occurrence; signs of gravity; indications to call 15
To know his (her) own risk factors	To make the link between risk factors (hypertension, diabetes, hyperlipidaemia, smoking, stress), lifestyle (diet, sedentary lifestyle) and non-modifiable factors (age, sex, family history of premature CHD)
To know the therapeutic targets	BP < 140/90 mmHg; BMI < 25 kg/m^2; WC < 94—102 cm (men), 80—88 cm (women); glucose < 1.1 g/L; LDL-C < 0.7 g/L
Knowledge to do	
To practise self-control	To measure weight (regularity), WC (method), BP (method of self-measurement) and biological variables (glucose, lipids);
To use nitrate spray	To describe what to do in case of angina: note the hour; use the nitrate spray; interpret the effect; know how to call 15 (how to describe the situation)
To involve his (her) circle of acquaintances in learning the emergency rules	To teach emergency rules to his (her) circle of acquaintances
Knowledge to be	
To use the health system	To specify the roles of the treating physician, the cardiologist, the pharmacist, the paramedic and the Emergency Medical Assistance Service
To adopt a favourable lifestyle	To rectify food errors, take regular physical activity, comply with medication, stop smoking
To recognize risky situations	To adopt a new outlook (reducing effort, emotion, stress)
Treatment	
Knowledge	
To know the name and effects of drugs	To explain how the patient's prescription fits with the general plan; to identify names, generic drugs, doses and frequent side-effects
To know the risk of stopping medication or missing doses	To identify target drugs that patients are likely to stop taking or miss doses of (beta-blockers, vitamin K antagonists, antiplatelet agents)
To understand the rationale behind titration	To explain dose adjustment
To know the non-drug therapies	To explain the techniques of coronary angioplasty and surgery
To know the examinations necessary for follow-up	To demonstrate the role of electrocardiography, ultrasound, the exercise stress test and coronary angiography; to explain the value of biological examinations, home blood pressure automeasurement and glycaemic self-monitoring
Knowledge to do	
To optimize compliance with medication	To discuss methods of taking medication (efficacy, omission); anticipation of prescription renewal; side-effects (risk of stopping or changing)

Table 3 (*Continued*)

Objectives for the patient	Guide for the care provider
To adapt in case of therapeutic omission	To know not to double the dosage
To avoid self-medicating	To describe common interactions with other medications
Knowledge to be	
To recognize main and side-effects	Analysis of cardiac pulse; blood pressure automeasurement
To inform health professionals of unexpected signs	To anticipate appointments
To prevent problems linked to travel	Prescription adjustment; precautions to be taken; insurance, etc.
Smoking cessation	
Knowledge	
To understand the role of smoking in atherothrombosis	Risks of active and passive smoking
To know what help is available with weaning	Substitutes and drugs; tobacco addiction consultation
Knowledge to do	
To estimate his (her) own motivation	Questionnaires
To improve his (her) own motivation	Balance (benefits versus negative effects of weaning)
Knowledge to be	
To plan weaning	Choice of date; informing the circle of acquaintances
To anticipate problems	Control of weight gain; how to do in case of relapse
To use the health system	Roles of the tobaccologist, the telephone and the internet
Cardioprotective diet	
Knowledge	
To know the link between food and atheroma	To make the link between ingested food and the artery wall; the risk factors
To know the characteristics of cardioprotective food	To classify food (what to favour, what to limit, neutrals); to classify the food origins of fatty acids; to classify high- and low-salt food
To know the benefits and risks of alcohol consumption	To limit alcohol intake to 2—3 glasses of wine a day in the absence of addiction or intolerance
Knowledge to do	
To eat a balanced diet each day	To make a menu with food cards
To eat five portions of fruits and vegetables per day	To suggest the consumption of two vegetables and three fruits per day
To use various modes of cooking, spices	Cooking workshops
To control salt consumption	To use food cards
To read food labels	Supermarket visit; to identify artificial food
Knowledge to be	
To manage a festive menu	Menu choices in restaurants; to space out festive meals
Self-monitoring	Weight, waist measurement
Physical activity	
Knowledge	
To make the link between the heart, muscles and arteries	To talk through a plan of the blood circulation
To make the link between physical inactivity and atheroma	Benefits and risks of physical activity (concept of the risk-protection exercise paradox)

Table 3 (*Continued*)

Objectives for the patient	Guide for the care provider
To become aware of his (her) own physical activity (walking, domestic chores, gardening, do-it-yourself, sexual activity, occupation, etc.)	Analysis of the various types of activities
To know the principles of endurance training	Periods: warming up, training, cooling down
To know the principles of muscle strengthening	Monitoring of pulse and breath (Borg's scale)
Knowledge to do	
To participate in endurance training sessions	To abide by the instructions
To know and abide by effort intensity	To determine tolerance (heart rate or muscle and respiratory sensation)
To participate in gymnastics sessions	To control the intensity
To estimate limitations of effort	Self-monitoring of pulse and breath
Knowledge to be	
To integrate physical activity into daily life	To avoid prolonged stops
To balance activities throughout the week	To keep a weekly diary
To identify risky activities	Analysis of the activity, its practice and safety
To practise a sport safely	Means of monitoring; observation of contraindications

BP: blood pressure; BMI: body mass index; CHD: coronary heart disease; LDL-C: low-density lipoprotein cholesterol; WC: waist circumference.

An evaluation can be proposed at any time by the care team if necessary and must be carried out at the end of every programme; the purpose is to conduct the review with the patient and to allow them to demonstrate their skills. The evaluation should result in the educational diagnosis being updated and lead to a new offer of TPE being proposed, if needed. This formative assessment is a constituent element of the full programme.

The evaluation is made at three different levels: evaluation of the programme by the patient (degree of satisfaction), evaluation of the educational process (skills acquired by the patient), and evaluation of the impact of the programme (bioclinical, psychosocial, medical, economic).

More widely, the evaluation should allow the value and necessity of the programme within the targeted population to be judged, and the use of the resources devolved to the TPE to be optimized. The current legislation authorizes a programme of TPE for 4 years, subject to an annual self-evaluation [27].

A summary of self-evaluation is proposed by the Haute Autorité de Santé (HAS): objectives of the TPE programme (beneficiaries, participants, skills to be developed, organization, information sharing, coordination, etc.), targeted population, methodology (participants, number of meetings, techniques and tools used, etc.), which evaluation factors were chosen for the annual self-evaluation, key points regarding the implementation of the programme, weak points of and difficulties with implementation of the programme, decisions taken to improve or maintain the quality of the programme (objectives, concrete actions, resources, deadline), evaluation domains and factors for evaluation planned for the next annual self-evaluation, means of providing the self-evaluation report to the beneficiaries.

Coordination of participants

The programme coordinator has a central role. In particular, they have to ensure the contents of the TPE, the complementarity of the participants and the consistency of the messages.

Implementation of TPE

As with any TPE programme, a charter of ethics and a charter of confidentiality must be drawn up, describing the commitment to patient respect and ethical principles that underlies any action of TPE. The charters must be put at the disposal of the patients in premises intended for the TPE.

Communication with other health professionals involved with the patient

TPE is a long-term activity involving successive participants in the course of care of the patient. Communication between these participants and with other health professionals in charge of the patient is a key element in their global care. Clinical follow-up provides an opportunity to remind the patient face-to-face about their progress objectives.

Conclusion

This paper aims to serve as the basis for the development of TPE for the coronary patient, which must involve all stages of the course of care of the patient (emergencies in the place of residence) and take into account the diversity of the educational structures, in terms of premises, TPE modalities and availability of participating teams. Cardiac rehabilitation centers provide conditions that are particularly favorable towards driving TPE (availability of the patient, trained and motivated multidisciplinary team), according to recommendations updated by the Working Group of Exercise Rehabilitation and Sport (GERS) in 2012 [24]. ''Heart and Health'' Patient's clubs are an effective way to maintain regular physical activity.

The implementation of such a national programme has to be part of the optimization of care of CHD, within the framework of the prescription of non-drug therapies recommended by the HAS [28]. Better understanding of the current offer would be helped by more open communication of the elements and results of existing programmes. Effective financial coverage by the health authorities will be an important element in the implementation and efficiency of these programmes.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

Acknowledgements

Members of the GERS: Gilles Bosser, Jean-Louis Bussière, Gilles Cellarier, Alain Cohen-Solal, Sonia Corone, Sophie Durand, Barnabas Gellen, Sylvain Guérard, Bernard Pierre, Jean-Yves Tabet and Bénédicte Vergès.

Members of the TPE Commission: Patrick Assyag, François Delahaye, Jean-Jacques Dujardin, Daniel Herpin, Jean-Pierre Houppe, Jean Ferrières, François Paillard, Véronique Thoré and Jean-Noël Trochu.

References

[1] Aouba A, Eb M, Rey G, et al. Données sur la mortalité en France: principales causes de décès en 2008 et évolutions depuis 2000. Bull Epidemiol Hebd 2011;22:249—55.

[2] Ford ES, Ajani UA, Croft JB, et al. Explaining the decrease in U.S. deaths from coronary disease, 1980—2000. N Engl J Med 2007;356:2388—98.

[3] Steg PG, Bhatt DL, Wilson PW, et al. One-year cardiovascular event rates in outpatients with atherothrombosis. JAMA 2007;297:1197—206.

[4] Chow CK, Jolly S, Rao-Melacini P, et al. Association of diet, exercise, and smoking modification with risk of early cardiovascular events after acute coronary syndromes. Circulation 2010;121:750—8.

[5] Clark AM, Hartling L, Vandermeer B, et al. Meta-analysis: secondary prevention programs for patients with coronary artery disease. Ann Intern Med 2005;143:659—72.

[6] Iestra JA, Kromhout D, van der Schouw YT, et al. Effect size estimates of lifestyle and dietary changes on all-cause mortality in coronary artery disease patients: a systematic review. Circulation 2005;112:924—34.
[7] Yusuf S, Hawken S, Ounpuu S, et al. Effect of potentially modifiable risk factors associated with myocardial infarction in 52 countries (the INTERHEART study): case-control study. Lancet 2004;364:937—52.
[8] Cohn PF, Fox KM, Daly C. Silent myocardial ischemia. Circulation 2003;108:1263—77.
[9] Tuppin P, Neumann A, Danchin N, et al. Evidence-based pharmacotherapy after myocardial infarction in France: adherence-associated factors and relationship with 30-month mortality and rehospitalization. Arch Cardiovasc Dis 2010;103:363—75.
[10] HAS-INPES. Structuration d'un programme d'éducation thérapeutique du patient dans le champ des maladies chroniques: Guide méthodologique.; June 2007 http://www.has-sante.fr/portail/upload/docs/application/pdf/etp_-_guide_version_finale_2_pdf.pdf
[11] Legifrance. Décret no 2010-904 du 2 août 2010 relatif aux conditions d'autorisation des programmes d'éducation thérapeutique des patients. Available at: http://www.legifrance.gouv.fr/affichTexte.do;jsessionid=F90D5E8ACEF64507C4A83D3FA700CD8D.tpdjo04v_3?cidTexte=JORFTEXT000022664533&categorieLien=id
[12] Wood DA, Kotseva K, Connolly S, et al. Nurse-coordinated multidisciplinary, family-based cardiovascular disease prevention programme (EUROACTION) for patients with coronary heart disease and asymptomatic individuals at high risk of cardiovascular disease: a paired, cluster-randomised controlled trial. Lancet 2008;371:1999—2012.
[13] Giannuzzi P, Temporelli PL, Marchioli R, et al. Global secondary prevention strategies to limit event recurrence after myocardial infarction: results of the GOSPEL study, a multicenter, randomized controlled trial from the Italian Cardiac Rehabilitation Network. Arch Intern Med 2008;168:2194—204.
[14] Bruckert E, Giral P, Paillard F, et al. Effect of an educational program (PEGASE) on cardiovascular risk in hypercholesterolaemic patients. Cardiovasc Drugs Ther 2008;22:495—505.
[15] Crozet C, Van Bockstaël V, Devos J, et al. [Evaluation of a national progamme of therapeutic patient education for farmers with cardiovascular diseases in France]. Educ Ther Patient/Ther Patient Educ 2009;1:33—8.
[16] Baudet M, Hericotte P, Daugareil C. [Improvement of the prognosis of the acute coronary syndromes in Landes by lifestyle modifications]. Ann Cardiol Angeiol (Paris) 2006;55:192—8.
[17] Denolle T, Sharareh A, Dib M, et al. [Effectiveness of a health network in secondary prevention among coronary patients]. Arch Mal Coeur Vaiss 2007;100:625—9.
[18] Lafitte M, Pradeau V, Leroux L, et al. Efficacy over time of a short overall atherosclerosis management programme on the reduction of cardiovascular risk in patients after an acute coronary syndrome. Arch Cardiovasc Dis 2009;102:51—8.
[19] Pavy B, Tisseau A, Caillon M. [The coronary patient six months after cardiac rehabilitation: rehabilitation evaluation research (RER study)]. Ann Cardiol Angeiol (Paris) 2011;60:252—8.
[20] Gibelin P. L'éducation thérapeutique applications aux maladies cardiovasculaires. Paris: Médecines Sciences Flammarion; 2006.
[21] Jourdain P, Juilliere Y. Therapeutic education in patients with chronic heart failure: proposal for a multiprofessional structured programme, by a French Task Force under the auspices of the French Society of Cardiology. Arch Cardiovasc Dis 2011;104:189—201.
[22] WHO Regional Office for Europe. Therapeutic patient education. Continuing education programmes for health care providers in the field of prevention of chronic diseases. Copenhagen: WHO working group; 1998 http://www.euro.who.int/__data/assets/pdf_file/0007/145294/E63674.pdf
[23] European Guidelines on cardiovascular disease prevention in clinical practice (version 2012): the Fifth Joint Task Force of the European Society of Cardiology and Other Societies on Cardiovascular Disease Prevention in Clinical Practice (constituted by representatives of nine societies and by invited experts). Eur J Prev Cardiol 2012;19:585—667.
[24] Pavy B, Iliou MC, Verges-Patois B, et al. French Society of Cardiology guidelines for cardiac rehabilitation in adults. Arch Cardiovasc Dis 2012;05:309—28.
[25] d'Ivernois J-F, Gagnayre R. Apprendre à éduquer le patient: approche pédagogique. Paris: Maloine; 2004.
[26] Simon D, Traynard P-Y, Bourdillon F, et al. Éducation thérapeutique: Prévention et maladies chroniques. Issy-les Moulineaux: Elsevier Masson; 2007.
[27] HAS. Auto-évaluation annuelle d'un programme d'éducation thérapeutique du patient: guide pour les coordonnateurs et les équipes; 2012 http://www.has-sante.fr/portail/upload/docs/application/pdf/2012-04/etp_auto-evaluation-programme_2012-04-02_16-39-56_681.pdf
[28] HAS. Développement de la prescription de thérapeutiques non médicamenteuses validées; 2011 http://www.has-sante.fr/portail/upload/docs/application/pdf/2011-06/developpement_de_la_prescription_de_therapeutiques_non_medicamenteuses_rapport.pdf